

# Mathematics Curriculum Objectives Year Five

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Trinity Primary





## Mathematics Curriculum Objectives Year Five

Year 5 Number				
	5.1	5.2	5.3	5.4 + application
Counting	<p>I can count backwards through zero to include negative numbers using a numberline</p> <p>I can count in multiples of 6, 25 and 1000</p>	<p>I can count backwards through zero to include negative numbers in 1s between 10 and -10 mentally</p> <p>I can count in multiples of 7</p>	<p>I can count backwards through zero to include negative numbers in 1s, 2s and 10s down to -100 mentally</p> <p>I can count backwards in steps of powers of 10 for any given number up to 10,000</p>	<p>I can count backwards through zero to include negative numbers in 1s, 2s, 5s and 10s down to -100 mentally</p> <p>I can count backwards in steps of powers of 10 for any given number up to 1,000,000</p>
Place Value	<p>I can recognise the place value of each digit in a four-digit number</p> <p style="color: red;">I can compare and order 3 or more numbers beyond 1000 and use &lt;, &gt; and = signs</p> <p>I can round any number to the nearest 10, 100 or 1000</p>	<p>I can make the largest or smallest four-digit number with a given set of number cards</p> <p style="color: red;">I can compare numbers with the same number of decimal places up to two decimal places</p> <p>I can round any number up to 10,000 to the nearest 10, 100 and 1000</p> <p style="color: red;">I can round decimals with one decimal place to the nearest whole number</p>	<p>I can recognise the place value of each digit in a seven-digit number</p> <p style="color: red;">I can compare numbers with the same number of decimal places up to three decimal places</p> <p>I can round any number up to 1,000,000 to the nearest 10, 100, 1000, 10,000 and 100,000</p> <p style="color: red;">I can round decimals with two decimal places to the nearest whole number</p>	<p>I can make the largest or smallest seven-digit number with a given set of number cards</p> <p style="color: red;">I can compare numbers up to three decimal places and use &lt;, &gt; and = signs</p> <p style="color: red;">I can round decimals with two decimal places to one decimal place</p>
Representing Number	<p>I can read Roman numerals to 100 (I to C)</p> <p>I can find 1000 more or less than a given number</p>	<p>I can find 1000 more or less than a given number i.e. <math>89,273 + 1000</math></p>	<p>I can read Roman numerals to 1000 (M)</p> <p>I can recognise and use square numbers and the notation for squared (<math>^2</math>) up to <math>10^2</math></p>	<p>I can recognise years written in Roman numerals</p> <p>I can recognise and use cube numbers, and the notation for cubed (<math>^3</math>) up to <math>5^3</math></p>
Mental +/-	<p>I can add and subtract numbers mentally, including: HTU+TU without crossing 10s or unit barriers e.g. <math>234 + 62</math></p>	<p>I can add and subtract numbers mentally, including: HTU+TU crossing one 10s or unit barrier e.g. <math>234 + 67</math></p>	<p>I can add and subtract numbers mentally, including: HTU+TU crossing two 10s or unit barriers e.g. <math>234 + 89</math></p>	<p>I can add and subtract numbers mentally, including: HTU+HTU crossing two 10s or unit barriers e.g. <math>234 + 189</math></p>



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Written +/-	I can use column addition and subtraction for numbers with more than 4 digits involving carrying and borrowing	I can use column addition and subtraction for numbers with more than 4 digits involving double carrying and borrowing (e.g. $11200 - 946$ and $11689 + 278$ )	I consistently complete column addition and subtraction involving all numbers	
Problems +/-	<p>I can solve two-step problems involving borrowing and carrying</p> <p>I can estimate and use inverse operations to check answers to a calculation</p>	<p>I can solve two-step problems involving double borrowing and carrying</p> <p>I can use rounding to the nearest 10, 100 or 1000 to check answers to calculations when told to</p>	<p>I can solve multi-step problems in contexts, deciding which operations and methods to use</p> <p>I can use rounding to check answers to calculations independently</p>	
Number Facts (x/÷)	I can recall division facts for <b>Silver</b>		<p>I can recall division facts for <b>Silver</b> with increasing speed and accuracy</p> <p>I can find all factors of a given number</p> <p>I can say if a number is prime or composite up to 19</p>	<p>I can find common factors of 2 numbers and prime factors of 1 number</p> <p>I can say if a number is prime or composite up to 30</p>
Mental (x/÷)	<p>My times are improving in <b>Gold</b> level times tables</p> <p>I can multiply three one digit numbers together</p>	I have completed <b>Gold</b> level Times Tables	I am scoring 30+ <b>Platinum</b> level times tables	I am scoring 40+ <b>Platinum</b> level times tables
Written (x/÷)	<p>I can use formal written multiplication for <math>TU \times U</math> and <math>HTU \times U</math> when <math>Us</math> are below 6</p> <p>I can use bus shelter division for <math>HTU \div U</math> with remainders</p>	<p>I can use formal written multiplication for <math>TU \times U</math> and <math>HTU \times U</math> when <math>Us</math> are between 6 – 9</p> <p>I can use bus shelter division for <math>HTU \div U</math> with remainders when the divisor does not fit into the first digit e.g. <math>125 \div 3</math></p>	<p>I can use formal written multiplication for <math>TU \times TU</math> and <math>HTU \times U</math></p> <p>I can use bus shelter division for <math>THTU \div U</math> with remainders</p>	<p>I can use formal written multiplication for <math>HTU \times TU</math></p> <p>I can use long division for <math>HTU \div TU</math> without remainders</p>



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Problems (x÷÷)	<p>I can solve more complex multiplication problems i.e. I have 8 boxes with 6 eggs in each box, how many eggs are there altogether?</p>	<p>I can solve more complex division problems i.e. I have 63 eggs in 9 boxes altogether, how many eggs are each box?</p>	<p>I can solve problems involving knowledge of factors and multiples i.e. Which numbers are factors of both 12 and 9?/Which numbers are multiples of both 25 and 2?</p> <p>I can solve multi-step problems involving all operations (x÷+-)</p>	<p>I can solve problems involving knowledge of square and cube numbers i.e. What is the largest square/cube number no bigger than fifty?</p>
Fractions	<p>I can count up and down in hundredths</p> <p>I can recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten</p>	<p>I can count up and down in hundredths across tenths and unit barriers i.e. 1.19, 2.10, 2.11</p>	<p>I can convert between improper fractions and mixed numbers e.g. <math>5/4 = 1\frac{1}{4}</math></p> <p>I can count up and down in hundredths and tenths from any given number</p>	<p>I can convert between improper fractions and mixed numbers with more difficult multiples where simplifying is required e.g. <math>6/4 = 1\frac{2}{4} = 1\frac{1}{2}</math></p>
Comparing Fractions	<p>I can compare and order common non unit fractions (i.e. <math>2/4</math>, <math>3/4</math>, <math>2/3</math>, <math>1/2</math>) without pictures</p> <p>I can recognise and show, using diagrams, families of common equivalent fractions i.e. <math>1/4 = 2/8 = 4/16</math></p>	<p>I can recognise and show families of common equivalent fractions by multiplying denominators and numerators by the same number</p>	<p>I can compare and order fractions whose denominators are all multiples of the same number between 1 and 6 times tables (<math>1/3</math>, <math>6/9</math>)</p> <p>I can recognise and show families of all equivalent fractions by multiplying denominators and numerators by the same number</p>	<p>I can compare and order fractions whose denominators are all multiples of the same number for all times tables (<math>3/7</math>, <math>6/21</math>)</p>



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Fractional Quantities	I can find fractions of quantities or objects with larger denominators i.e. $\frac{3}{7}$ of 21		I can find fractions of quantities or objects with larger denominators mentally	I can find fractions of quantities or objects with increasingly large denominators i.e. $\frac{6}{120}$ of 360
Fraction Calculations	I can add and subtract fractions with the same denominator including answers resulting in an improper fraction e.g. $\frac{3}{7} + \frac{5}{7} = \frac{8}{7}$		<p>I can add and subtract fractions whose denominators are multiples of the same number e.g. <math>\frac{2}{3} + \frac{4}{9} = \frac{6}{9} + \frac{4}{9} = \frac{10}{9}</math></p> <p>I can multiply proper fractions by whole numbers e.g. <math>\frac{2}{3} \times 3 = \frac{2}{3} \times \frac{3}{1} = \frac{6}{3}</math></p>	<p>I can add and subtract fractions whose denominators are multiples of the same number and simplify answers e.g. <math>\frac{2}{3} + \frac{4}{9} = \frac{6}{9} + \frac{4}{9} = \frac{10}{9} = 1 \frac{1}{9}</math></p> <p>I can multiply proper and improper fractions by whole numbers e.g. <math>\frac{4}{3} \times 3 = \frac{4}{3} \times \frac{3}{1} = \frac{12}{3}</math></p>
Decimals as Fractional Amounts	<p>I can recognise and write decimal equivalents of any number of tenths</p> <p>I can recognise and write decimal equivalents to <math>\frac{1}{4}</math>, <math>\frac{1}{2}</math> and <math>\frac{3}{4}</math></p> <p>I can multiply and divide a number by 10 and 100 when answers are decimals</p>	<p>I can recognise and write decimal equivalents of any number of hundredths</p> <p>I can recognise and write decimal equivalents to <math>\frac{1}{3}</math> and <math>\frac{2}{3}</math></p> <p>I can multiply and divide a decimal number by 10 and 100</p>	<p>I can recognise and write decimal equivalents of any number of hundredths or tenths</p> <p>I can convert between unit fractions and decimals e.g. <math>\frac{1}{4}</math>s, <math>\frac{1}{2}</math>s, <math>\frac{1}{3}</math>s <math>\frac{1}{5}</math>s, <math>\frac{1}{20}</math>s and <math>\frac{1}{25}</math>s</p> <p>I can multiply and divide any number by 10 and 100</p>	<p>I can convert between fractions and decimals whose denominators are factors of 100 e.g. <math>\frac{12}{25} = \frac{48}{100} = 0.48</math></p> <p>I can multiply and divide any number by 10, 100 and 1000</p>
Percentages			<p>I can recognise the per cent symbol (%) and know that it can be written as a fraction of 100 e.g. <math>22\% = \frac{22}{100}</math></p> <p>I can convert between fractions, decimals and percentages equivalent to <math>\frac{1}{2}</math>, <math>\frac{1}{4}</math>, <math>\frac{3}{4}</math>, <math>\frac{1}{3}</math>, <math>\frac{2}{3}</math></p>	<p>I can convert between fractions, decimals and percentages whose denominators are factors of 100 e.g. <math>\frac{4}{25} = \frac{16}{100} = 16\% = 0.16</math></p>



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Year 5 Geometry, Measuring and Statistics				
	5.1	5.2	5.3	5.4 + application
Measures	<p>I can measure, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml) in scales where the measurement falls between intervals</p> <p>I can convert between different units of measure i.e. mm into cm/cm into m</p> <p>I can estimate lengths (m/cm); mass (kg); volume/capacity (l)</p>	<p>I can convert between different units of measure i.e. m into km</p> <p>I can estimate lengths (mm); mass (g); volume/capacity (ml)</p>	<p>I can convert between different units of metric measure</p> <p>I can estimate lengths; mass; volume/capacity using all measurements</p> <p>I know approximate equivalences between cm and inches, kg and pounds and litres and pints</p>	<p>I can solve problems which involve simple conversion e.g. Ralph has eaten 128g of sweets, Darren has eaten 1.2kg of sweets. Who has eaten the most?</p>
Perimeter & Area	<p>I can find the perimeter and area of squares and rectangles by counting squares</p>	<p>I can find the perimeter and area of shapes by counting whole squares and partial squares</p>	<p>I can find the perimeter and area of composite rectilinear shapes (cm/m/cm<sup>2</sup>/m<sup>2</sup>) when the length of all sides are given</p>	<p>I can find the perimeter and area of composite rectilinear shapes with missing sides</p>
Money	<p>I can complete two-step word problems involving change</p>	<p>I can complete multi-step word problems involving change</p>		



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	5.1	5.2	5.3	5.4 + application
Time	<p>I can convert times i.e. hours into minutes, minutes into hours, years to months, weeks to days</p> <p>I can read, write and convert time between analogue and digital 12- and 24-hour clocks</p> <p style="color: red;">I can solve interval problems taking times from timetables/TV guides using a blank timeline over an hour i.e. how many minutes from 9:15 to 11:20</p>	<p>I can solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days</p> <p style="color: red;">I can solve interval problems taking times from timetables/TV guides using a blank timeline over an hour <i>in multiples of 5</i> i.e. how many minutes from 9:15 to 12:00</p>	<p>I can solve problems involving converting between units of time</p> <p style="color: red;">I can solve interval problems taking times from timetables/TV guides using a blank timeline over an hour <i>to the minute</i> i.e. how many minutes from 9:17 to 12:00</p>	
2D Shapes	<p>I can classify quadrilaterals and triangles, stating whether they are regular or irregular</p> <p>I can identify lines of symmetry in 2-D shapes presented in different orientations</p>	<p>I can classify all common polygons stating whether they are regular or irregular</p> <p>I can complete a simple symmetric figure with respect to a specific line of symmetry</p>		
3D Shapes	<p>I can make simple 3D shapes using given nets</p>		<p>I can identify which nets make cubes and cuboids</p>	<p>I can identify which 3D shape can be made from any given net</p>
Angles	<p style="color: red;">I can identify acute and obtuse angles</p> <p style="color: red;">I can compare and order angles below 180°</p>		<p style="color: red;">I can identify acute, obtuse and reflex angles</p> <p style="color: red;">I can compare and order any angle</p> <p style="color: red;">I can measure given angles in degrees (°)</p> <p style="color: red;">I know angles on a straight line add up to 180°</p> <p style="color: red;">I know angles in a triangle add up to 180°</p> <p style="color: red;">I know angles around a point add up to 360°</p>	<p style="color: red;">I can draw given angles using a protractor</p> <p style="color: red;">I can find missing angles on a straight line</p> <p style="color: red;">I can find missing angles in a triangle</p> <p style="color: red;">I can find missing angles around a point</p>



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	5.1	5.2	5.3	5.4 + application
Position & Direction	<p>I can read coordinates in the first quadrant i.e. only positive</p> <p>I can describe translations to the left/right and up/down</p>	I can plot given coordinates to create simple polygons	<p>I can draw and translate simple shapes on the first quadrant</p> <p>I can reflect a shape horizontally or vertically</p>	I can draw and translate simple shapes across four quadrants
Interpreting Data	<p style="color: red;">I can interpret and construct simple line graphs</p> <p>I can interpret and make bar charts with intervals of 0.5s</p>	I can interpret and make bar charts with intervals of 0.25s	<p style="color: red;">I can interpret and construct simple line graphs where answers fall between scales</p>	<p style="color: red;">I solve 2 stage problems using line graphs e.g. how long did it take Darren to run between 3 o'clock and 5 o'clock?</p>
Extracting Info From Data	I can solve one-step and two-step questions for example, How many more? How many fewer? using information presented in bar charts, pictograms, tables and line graphs with simple scales	I can solve one-step and two-step questions for example, How many more? How many fewer? using information presented in bar charts, pictograms, tables and line graphs with scales of 0.5 and 0.25	I can solve comparison, sum and difference problems using information presented in a line graph	